Nova Scotia

ANNUAL REPORT

for the fiscal year
ending March 31, 1988

Department of Agriculture and Marketing

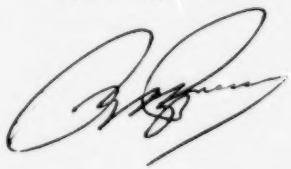
89-04933/

His Honour,
The Honourable Alan R. Abraham, C.D.
Lieutenant-Governor of Nova Scotia

May It Please Your Honour:

I have the honour to submit the Annual Report of the Department of Agriculture and Marketing for the fiscal year ending March 31, 1988.

Respectively submitted,



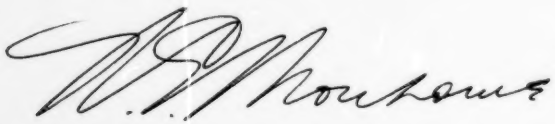
Roger Bacon
Minister

The Honourable Roger Bacon
Minister of Agriculture and Marketing
Province of Nova Scotia
Halifax, Nova Scotia

Dear Sir:

I have the honour of presenting the Annual Report of the Department of Agriculture and Marketing for the fiscal year ending March 31, 1988.

Respectively submitted,



Ralph Morehouse
Deputy Minister

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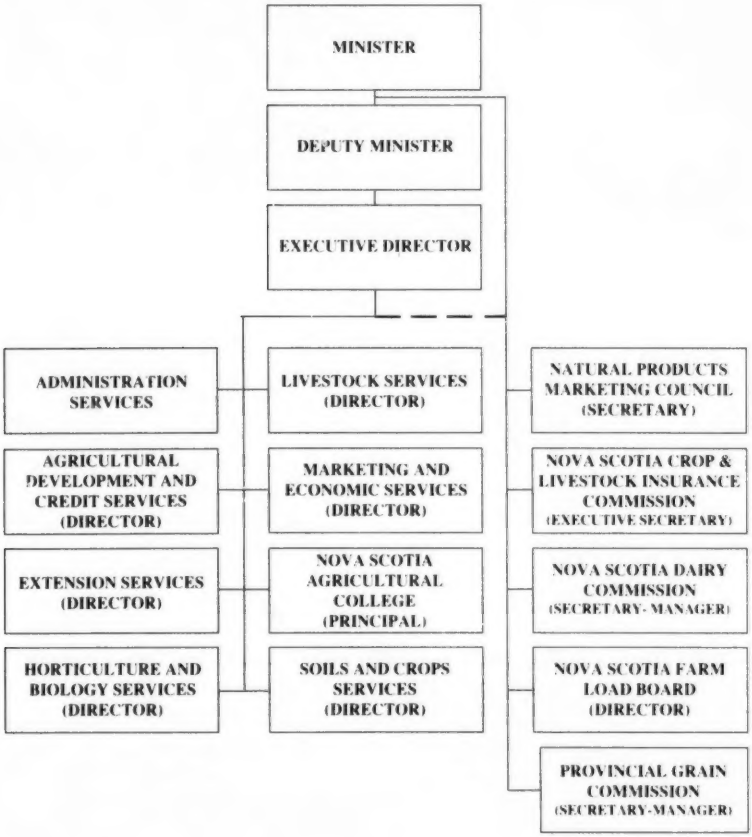
MINISTER
DEPUTY MINISTER
EXECUTIVE DIRECTOR
ADMINISTRATION SERVICES
AGRICULTURAL DEVELOPMENT AND CREDIT SERVICES (DIRECTOR)
EXTENSION SERVICES (DIRECTOR)
HORTICULTURE AND BIOLOGY SERVICES (DIRECTOR)
LIVESTOCK SERVICES (DIRECTOR)
MARKETING AND ECONOMIC SERVICES (DIRECTOR)
NOVA SCOTIA AGRICULTURAL COLLEGE (PRINCIPAL)
SOILS AND CROPS SERVICES (DIRECTOR)
NATURAL PRODUCTS MARKETING COUNCIL (SECRETARY)
NOVA SCOTIA CROP & LIVESTOCK INSURANCE COMMISSION (EXECUTIVE SECRETARY)
NOVA SCOTIA DAIRY COMMISSION (SECRETARY-MANAGER)
NOVA SCOTIA FARM LOAD BOARD (DIRECTOR)
PROVINCIAL GRAIN COMMISSION (SECRETARY-MANAGER)

NOVA SCOTIA AGRICULTURAL COLLEGE

OVERVIEW

College enrollment decreased slightly in 1987–1988. Estimates for 1988–1989 indicate similar enrollment numbers. In the diploma programs, demand for places is strong in Landscape Horticulture, Animal Health Technology and Biology Laboratory Technology. The new Anima! Health Technology program began in September, 1988, with fifteen students enrolled.

The farmstead planning process has continued during the past year. Roles and goals for the farm and present buildings have been assessed. The capacity for most animal units has been determined and renovation concepts are in the development stage.

A fur unit service building is under construction. It will provide a feed kitchen, metabolism laboratory, artificial insemination collection and quality control area along with a demonstration room. A new woodchip burning addition to the Central Heating Plant is under construction and should be completed in mid-November, 1988. The Boulden Building is scheduled to be renovated during the coming year as a new small laboratory animal centre. A new welding shop has been added to the Banting Building for the Agricultural Engineering Department. A house on College Road is now under renovation and will become a campus day-care centre to serve both staff and students.

College involvement in international development programs continues to expand. Two new projects began in 1988, one with the College of Agriculture in Jamaica and one with the School of Agricultural Technology at Francisco de Paula Sontander in Colombia. Work continues with Gambia College in the Gambia, Hunan Agricultural College in China and with the international course on Potato Production Technology.

Research activity continues to grow and funding from all sources is approaching $1.5 million.

COURSES OFFERED

The following is a summary of courses offered at the College:

Degree

A complete four-year course leading to a degree in Agricultural Sciences [B.Sc.(Agr.)] is offered with the following options:

- Agricultural Chemistry
- Agricultural Economics
- Agricultural Mechanization
- Agricultural Soils
- Animal Science
- Plant Protection
- Plant Science

Students can take other options without interruption by transferring to the third year of the B.Sc.(Agr.) program at Macdonald College of McGill University, the University of Guelph, the University of Maine or the Faculty of Agriculture at another university.

Engineering students who successfully complete the three years of the Agricultural Engineering degree course can proceed to Macdonald College of McGill University or the University of Guelph or can apply to the Technical University of Nova Scotia or to another engineering faculty to complete their program of study.

Students who wish to take the three-year Pre-Veterinary program to meet admission requirements of the Atlantic Veterinary College at the University of Prince Edward Island must, after completing the first year, enter the Animal Science option and take a specific selection of subjects. The Pre-Vet program also serves as the first three years of the B.Sc.(Agr.) program, Animal Science option. For other options, it may take more than one year to complete the B.Sc.(Agr.) program.

Technician

The following two-year programs of study are offered:

- Agricultural Business
- Agricultural Mechanization

- Animal Science
- Farm Equipment
- Plant Science

Technology

The following two-year programs of study are offered:

- Biology Laboratory Technology
- Chemistry Laboratory Technology
- Landscape Horticulture Technology

The following two-year programs are offered only to students who have successfully completed one year of a specified Technician Course (or equivalent):

- Agricultural Engineering Technology
- Farming Technology

Students in the Farming Technology Course spend eleven months (including summers) of their course work on farms. Seven of those months consist of structured training under a farmer/instructor.

Agricultural Technology is a one-year program, tailored to meet the needs of the student. Only Technician graduates are eligible to apply for this course.

REGISTRATION 1987–1988

1st Year B.Sc.(Agr.)	69	
2nd Year B.Sc.(Agr.)	71	
3rd Year B.Sc.(Agr.)	84	
4th Year B.Sc.(Agr.)	64	
Sub-Total B.Sc.(Agr.)		288
1st Year Engineering	4	
2nd Year Engineering	4	
3rd Year Engineering	2	
Sub-Total Engineering		10
1st Year Technician	79	
2nd Year Technician	60	
Sub-Total Technician		139
1st Year Technology	41	
2nd Year Technology	25	
Sub-Total Technology		66
Special Students*		31
Total Full-Time Students		534

*Students not in a regular program leading to a degree or diploma.

VOCATIONAL AND CONTINUING EDUCATION PROGRAMS

Vocational courses have been designed to assist men and women enter or progress in farm or farm-related careers. Fifty-three courses were held with 708 persons enrolled, totalling 10,136 student training days.

The Canada Employment and Immigration Commission sponsored 232 persons by paying their tuition. On courses over ten days duration CEIC paid a training allowance. Details on enrollment can be seen in the following tables:

PROVINCE	NUMBER OF STUDENTS			% OF TOTAL STUDENTS		
	1987–88	1986–87	1985–86	1987–88	1986–87	1985–86
Nova Scotia	533	436	470	75.3	74.5	78.2
New Brunswick	75	72	68	10.5	12.3	11.3
Prince Edward Island	58	46	20	8.2	7.8	3.3
Newfoundland	29	24	19	4.1	4.1	3.1
Other Residents	13	7	24	1.9	1.1	3.9
Total Number Enrolled	708	585	601			

RESEARCH PROJECTS

Research projects were funded from a number of sources. Some of these were at the discretion of the Committee while others were the result of individual initiative. A number of investigative projects are not included. The fund sources are as follows and may or may not be included in these statistics.

Source	Projects/ Grants	Funds
N.S. Department of Agriculture and Marketing	46	254,320
Canada/Nova Scotia Livestock Feed Development Agreement (ALFI)	15	259,907
Federal Contracts through Agricultural Research Institute	11	109,360
NSERC Grants	12	213,410
Industry and Miscellaneous Grants	23	114,646
Miscellaneous Research Contracts	8	254,522
	115	1,206,165

COLLEGE FARM

Crops

The 1987 forage crops suffered from a very dry summer. However, fields harvested before late June produced good second cut forage. Yields were average and quality was above average on most fields.

An additional 30 acres of land were leased from Mr. Donald Sutherland of North River to provide additional land for plant research work.

The cropping program for 1987 is listed below:

Crop	Acres	Crop	Acres
Research Plots	12	Cultivated Pasture	59
Brassicas	2.5	Winter Wheat	30
Annual Ryegrass	7.4	Spring Wheat	12
Legume Forage	64	Barley	22
Grass Forage	91	Oats	10
Corn Silage	79	New Seeded Legume	59
Improved Pasture	54	Woods	32
Total Acres	534		

Livestock

All the various classes of livestock and poultry have been used in research and/or student projects during the past year. Changes in livestock numbers with year-end inventories were as follows:

	Apr. 1/87 Begin	Born Alive	Purchased	Sold	Died	Mar. 31/88 End
Beef Cattle	153	47	22	72	4	146
Dairy Cattle	102	63	0	59	4	102
Sheep	120	120	144	153	51	180
Swine	461	907	4	823	171	378
Foxes	161	221	6	199	39	150
Mink	115	371	2	322	75	91
Horses	4	0	0	0	0	4
Poultry	2696	1921	9742	3328	715	7316

Dairy Cattle

The dairy herd, which has traditionally been one-half Ayrshire and one-

half Holstein, is now approximately 60 percent Holstein and 40 percent Ayrshire. An oversupply of fresh heifers and milk led to a higher than average culling rate during the year. A total of 333,560 litres of milk was sold compared to 277,105 litres the previous year. The 12-month Dairy Herd Analysis Service average milk produced increased from 5,557 kgs in 1986–1987 to 6,340 kgs in 1987–1988 for the Ayrshires. The corresponding figures for the Holstein herd was 7,109 kgs and 8,381 kgs of milk.

Several research and student projects were completed during the year. Three 12 x 40 foot concrete stave upright silos and an enlarged silage feeding room were completed during March, 1988. These added facilities will enable the College to complete more research, particularly in the area of forage preservation and evaluation.

Beef Cattle

Fifty-three beef cows calved during the 1987 spring calving season with 49 calves being weaned. After herd replacements were selected, the remainder of the calves were placed in a feed lot and finished.

A summary of the breed numbers and herd adjusted production figures is as follows:

Breed Group	Number Calving	Calves Weaned	Adjusted Weaning Weight	Adjusted Yearling Weight
Hereford	12	10	414 Lbs.	757 Lbs.
A.C. Shorthorns	21	19	447 Lbs.	741 Lbs.
Lacombe Shorthorns	8	8	423 Lbs.	—
X-Breeds	12	12	493 Lbs.	820 Lbs.

Swine

The swine unit had 91 litters born during the year with an average of 2.39 litters per sow. A total of 853 piglets were born alive for an average of 9.4 live/litter. An average of 8.0 pigs were weaned per litter.

A total of 712 market hogs were sold during the year with 37.2 percent grading with an index of 105 or better. Eighty-two percent of the market hogs graded with an index of 100 or more.

The College continued to co-operate with the Nappan Experimental

Farm with joint research projects and 363 of the market hogs were marketed from their research facilities.

Sheep

A sheep trial, comparing the growth rate of Suffolk and North Country Cheviot rams on grass and grain, was the main research project carried out in the sheep unit.

Poultry

Three broiler flocks, a broiler layer flock and approximately 2,500 layers were used in teaching, research and student projects during the year.

Fur Unit

The expanded fur unit facilitated several research and student projects during the year. Pelt prices were off from the previous year due to an oversupply and a larger than average inventory on the world market.

LIVESTOCK SERVICES BRANCH

OVERVIEW

The Livestock Services Branch provides services to the total livestock industry in four general areas. These include: providing expertise in feeding, breeding and management; providing rapid and accurate diagnosis of animal diseases for practising veterinarians and farmers; providing regulations pertaining to the production, inspection, distribution and sale of milk; and providing for the inspection of Red Meat Abattoirs.

The beef industry received higher slaughter cattle prices during 1987. Prices paid at the two 1987 Fall Feeder Sales in Truro averaged 17.9¢ higher than those received in 1986. The Beef Herd Improvement Policy helped to provide some economic stability to the beef cow-calf sector of the industry.

The sheep industry in 1987 experienced strong prices and good demand for lambs at the various markets. The check-off for wool in 1987 was six cents per pound, four cents for the operation of the Sheep Producers Association of Nova Scotia and two cents for the operation of the Nova Scotia Wool Marketing Board.

The swine industry remained concerned about its low marginal profit. A total of 179 producers were enrolled in the Pork Stabilization Program at the end of 1987, representing over 97 percent of the total provincial production. The province leads the rest of Canada in the quality of hogs marketed.

The dairy cattle sector represents the largest single segment of the livestock industry. One hundred and seventy-one herds participated in the D.H.A.S. Owner-Sampler Program. The Nova Scotia Dairy Commission reports 579 producers as of December 31, 1987.

Farm sales by fluid milk producers totalled 172,588,160L (391,775,123 pounds)—a decrease of 1.4 percent over the previous year. In addition, 1,997,862L (4,535,147 pounds) were delivered by industrial milk producers. Cream producers shipped a total of 212,263 kg (467,955 pounds) to creameries in 1987. Deliveries under the M.S.Q. Program for the year ending July 25, 1987, totalled 2,322,589 kg (5,120,380 pounds) of butterfat.

The poultry industry segments—egg, chicken, turkey and pullet—

are all under a supply management system. The total cash farm income from the poultry industry is $60,972,000.

The veterinary staff and laboratory facilities support all branches of the Department of Agriculture and Marketing, and provides diagnostic services to the Department of Lands and Forests. Laboratory submissions for all species in 1987 were 8,701 specimens. The Livestock Health Services Program assisted 42 veterinarians in 19 clinics during 1987, working under 20 Livestock Health Services Boards. Another program to assist the livestock owners is the Herd Health Assistance Policy. The veterinary sector provides expertise to the large animal, poultry and fur industries.

The fur sector continued to show growth in pelt production. Mink ranches are expanding their production and there have been some new entrants. The chinchilla sector has seen some renewed interest with a number of new entrants. Reduced pelt prices in the fox sector has resulted in a levelling off of producer numbers. There are 163 licensed mink ranchers, 262 licensed fox ranchers and 16 licensed chinchilla ranchers.

BEEF

Production

The following table outlines the total cattle population estimates for January, 1988, with previous estimates for comparison purposes:

Nova Scotia Cattle ('000)

	Jan. 88	Jan. 87	Jan. 86	Jan. 85	Jan. 84
Bulls	1.9	1.8	1.7	1.7	1.7
Milk Cows	33.3	35.6	35.4	36.3	35.9
Beef Cows	22.5	26.7	26.6	26.3	26.0
Milk Heifers	15.3	14.9	15.0	15.2	15.0
Beef Heifers—Replacement	5.5	7.2	7.1	7.1	7.0
Beef Heifers—Slaughter	4.5	3.8	3.7	3.6	3.7
Steers Over One Year	7.0	11.0	10.5	10.2	10.2
Calves Under One Year	30.0	34.0	36.0	36.6	33.5
TOTAL	120.0	135.0	136.0	137.0	133.0

Prices

Slaughter cattle prices increased slightly in 1987. A1, A2 steers averaged $77.08/cwt. at the Truro Sale, compared to $72.50/cwt. in 1986.

During the same period D1, D2 cows sold at $55.61/cwt., compared to $50.00/cwt. in 1986.

In 1987, two feeder cattle sales were held in Truro. The overall average for both sales on the 1,930 cattle was 97.02¢/lb., which was 17.90¢ higher than in 1986.

AVERAGE PRICE—TRURO FEEDER SALE

1987	1986	1985	1984	1983	1982	1981
$97.02	$79.08	$74.58	$76.35	$72.05	$67.10	$65.38

Choice and good steer calves averaged 113.06¢/lb., compared to 86.54¢/lb. in 1986. Quality was extremely high at both sales. The sales returned a total of $980,178 for the 1,239,466 pounds of feeders sold.

IMPROVED SIRE POLICY

Assistance was paid on the purchase of bulls during the year as follows:

	1987	1986	1985	1984	1983
Purebred Herd Sires	23	31	29	38	22
Commercial Herd Sires	187	156	191	167	121
Total Assistance Paid	$ 76,200	$ 71,800	$ 79,500	$ 74,600	$ 54,450
Value of Bulls	$281,235	$250,593	$300,227	$277,920	$192,200

All bulls must be performance tested, either at home or at the Maritime Beef Cattle Test Station and must meet minimum standards for rate of gain and yearling weight. This policy has helped to reduce time spent on selection and inspection of bulls and has helped to educate producers in the use of performance records and their application to practical breeding programs.

Beef Herd Improvement Policy

The purpose of this program is to improve and develop beef cow herds in Nova Scotia and to provide some economic stability to the beef cow-calf sector of the industry.

	1987	1986	1985
Number of Applications	482	508	519
Number of Animals Paid On —Total Number	3,557	3,826	15,905
Average Per Application	7.38	7.53	31
Amount of Money Paid Out —Total Amount	$569,120	$612,160	$636,200
Average Per Application	$ 1,181	$ 1,205	$ 1,226

Performance Testing

We continue to participate in the Federal-Provincial R.O.P. Beef Program. This program is designed to assist breeders in selecting replacement heifers and herd sires on the basis of rate of gain. It is a very valuable aid in a selection program. During the fall of 1987, 200 herds were enrolled in Home Test, the same number as the previous year.

In addition, the Maritime Beef Cattle Test Station continues to operate on a year-round basis at Nappan. Since 1966, 2,904 bulls have been tested at Nappan.

During 1987, 216 bulls were tested at Nappan. About 53 percent of all bulls tested were from Nova Scotia.

The Test Station at Nappan also offers excellent facilities for the Annual Bull Sale held in April of each year.

Community Pastures

Livestock numbers increased slightly on Community Pastures during 1987, with some increase in sheep numbers on the Cape John Pasture.

The Cape John Pasture had 609 head of cattle and 282 sheep and lambs entered. The cattle did well on pasture with an Average Daily Gain of 1.40 pounds. No disease or management problems were encountered. In general, patrons were satisfied with livestock performance on the Cape John pasture in 1987.

The Cape Mabou Pasture had 565 head of cattle pastured. Cattle performance was excellent with an average gain of 1.80 pounds/day reported.

The Minudie Pasture continued to operate under lease agreement

and 351 head of cattle were pastured for seven patrons. Cattle performance was good at this Pasture during 1987.

The five Co-operative Pastures located at L'Ardoise, Cheticamp, Glendale, Manchester and Digby were operated under the management of the local co-operatives.

SHEEP

Production

The sheep industry was highlighted in 1987 by strong prices and a strong demand for lambs in all markets.

Northumberlamb Marketing Co-op was successful in 1987, marketing 4,000 lambs. There were 26,000 sheep in Nova Scotia, as recorded by Statistics Canada on January 1, 1988—an increase of 1,000 from the previous year.

Two groups of rams were tested at the Test Station in Nappan with a total of 22 rams on test.

The Home Test Record of Performance program provides a mechanism for measuring the performance of animals within the flock. The annual report showed 50 flocks with 5,000 lambs tested. Nova Scotia had the third highest number of lambs on test in 1987.

Prices

Lamb and mutton prices at the Maritime Cattle Market were strong in 1987. The volume offered through the market was approximately 7,414 lambs. The average price was 92.5¢/lb., according to the Market Report.

The Annual Breeding Stock Sale, sponsored by the Purebred Sheep Breeders Association of Nova Scotia, sold 94 head for a gross of $16,495. Animals sold were ewe lambs, yearlings, two-year-olds, mature and selected R.O.P. Tested rams.

	1987		1986		1985		1984	
	NO.	AVE.	NO.	AVE.	NO.	AVE.	NO.	AVE.
Ewe Lambs	35	$145.20	18	$ 93.60	13	$110.75	22	$ 99.40
Yearlings	13	78.33	18	124.33	15	148.50	13	157.40
Two-Year-Olds	—	—	6	149.50	8	87.00	6	158.00
Rams	27	251.87	16	229.50	24	200.00	24	232.00
Mature Ewes	19	164.75	57	87.40				

Assistance Policies

The Livestock Services Branch supervised three sheep policies in 1987. They were the Improved Sire Policy, Sheep Production Policy and the Sheep Pasture Improvement Policy.

Improved Sire Policy (January 1, 1987–December 31, 1987)

Total Number of Rams Bonused—33
- Suffolk—12
- Dorset—5
- North Country Cheviot—6
- Clun Forest—6

Total Assistance—$3,118.80

Sheep Production Policy (January 1, 1987–December 31, 1987)

- Number of Yearlings Bonused—1,113
- Number of Producers—38

Total Assistance—$30,960.00

Sheep Pasture Improvement Policy (January 1, 1987–December 31, 1987)

- Approximate Number of Acres Fenced—300
- Land Cleared (Acres)—2.0
- Number of Producers—29

Total Assistance—$15,580.00

GOATS

During 1987, a number of shows were held sponsored by the Goat Association. There has been increasing interest in goats for milk production during the past year with the development of a commercial goat dairy.

There were a number of 4-H Clubs in the province with dairy goat projects.

PREDATOR CONTROL

A compensation program administered by the Department of Lands and Forests paid compensation to sheep producers on 584 sheep and lambs killed by coyotes.

SWINE

Production

A total of 223,663 hogs were marketed through the Pork Producers Marketing Board of Nova Scotia. This was a decrease of 5,802 or 2.5 percent compared to 1986. The average value per hog marketed was $155.14, up 8.1 percent from 1986. The average weekly price for 100 index hogs for 1987 was $85.38/cwt. The gross value of these hogs was $34,699,000.

Pork Quality

The following is a comparison of how Nova Scotia indexed in relation to the Canadian average in 1987, 1985, and 1983:

		1987	1985	1983
Index 102 +	Canada	59.2	74.3	79.8
	Nova Scotia	78.9	80.7	81.1
Index 105 +	Canada	40.3	43.8	39.4
	Nova Scotia	55.9	52.4	51.8
Index 108 +	Canada	12.8	14.5	12.3
	Nova Scotia	24.3	17.3	17.7

Nova Scotia producers continue to lead other provinces in Canada on the quality of hogs marketed.

Record of Performance Testing

There continued to be strong support for both Home and Station testing of swine in 1987. Eleven hundred and eighty-three boars and 2,958 gilts were tested on the Home Testing Program in 1987. There was a decrease in boars and an increase in gilts, compared to 1986.

Swine Herd Health Program

There are 85 pork producers enrolled in the Swine Herd Health Program, utilizing the services of eight local veterinarians. This program has improved the overall management and health situations in our swine herds. It is of even greater importance during periods of low pork prices, when top performance is necessary.

Improved Sire for Swine

The quality of hogs marketed in Nova Scotia is in a large measure due to the continued use of the best performance tested boars available. Assistance was paid on a total of 335 boars. Landrace accounted for 134, Yorkshire—94, Hampshire—53 and Duroc—54.

Nova Scotia Pork Price Stabilization Program

A total of 179 pork producers are enrolled in this program, representing over 97 percent of total production. This program has been very valuable in maintaining our industry through the continued low price periods in recent years. Without this program, many producers would have found it very difficult to survive due to present economic conditions.

Swine Breeding Stock Sales

There was a continued high demand for swine breeding stock in 1987. The value of animals sold through the Nova Scotia Swine Breeding Stock Sales Society in 1987 amounted to $74,000, compared to $75,000 in 1986.

Producer Organizations

The Branch continued to work closely with both the Pork Producers Association of Nova Scotia and the Pork Producers Marketing Board of Nova Scotia. This close liaison is very important in developing programs and policies. The cost of production study committees considering supply management and stabilization programs are two areas of co-operation.

POULTRY

Production

The Nova Scotia poultry industry is broken down into five economic production divisions. They are:

- Egg Production
- Pullet Production
- Broilers
    - Cornish Chicken
    - Light
    - Regular
    - Roasting
- Turkeys
    - Broilers
    - Hens
    - Toms
- Hatchery

In Nova Scotia, there are five registered hatcheries. The egg segment has 43 registered producers who produced 16 million dozen eggs. We have 19 commercial pullet producers with a total quota of 697,900 pullets.

Nova Scotia's registered chicken producers grew approximately 18.2 million kilograms (40 million pounds) (eviscerated weight) of chicken. Sixteen registered turkey producers placed 743,000 poults and produced 2.8 million kilograms (6.17 million pounds) (eviscerated weight) of turkey.

Blood Testing Program

The Branch continued an extensive blood testing and vaccination program for exhibition birds. In 1987, there were over 2,500 birds in the 4-H Poultry Project. The unbanded exhibition birds will continue to be tested for Pullorum.

There were no outbreaks of I.L.T. in 1987.

DAIRY

Production

Milk production for the year from our fluid farms was 172,588,160L (391,775,123 pounds), a decrease of 1.4 percent over the previous year.

Dairy cattle numbers on farms shipping fluid milk in 1987 was 30,630. These numbers reflect an average herd size of 52 cows. The number of licensed milk producers recorded on January 1, 1987, was 587. Sixteen producers left the industry and 8 entered the dairy business, leaving a net figure of 579 producers at year end.

Dairy Cattle Sales

Prices for fresh cows and heifers were up slightly. Milk production per cow was down slightly over the previous year.

Number of Dairy Cows

	Jan. 1/88	Jan. 1/87	Jan. 1/86
Cows for Milk	29,000	30,000	29,500
Replacement Heifers	11,500	12,500	11,500
TOTAL	40,500	42,500	41,000

Dairy Herd Analysis Service

As of December 31, 1987, there were 171 herds on the Owner-Sampler D.H.A.S. Program. These 171 herds represent 8,721 cows.

As of December 31, 1987, the 158 herds which had completed at least 12 months on the program had a rolling herd average of 6,535 kg (14,390 pounds) of milk with 3.6 percent butterfat test. Production per cow increased by 205 kg (452 pounds) as compared to a year earlier. The top herd average in 1987 was 10,217 kg (22,524 pounds) which is an all-time high for a Nova Scotia herd on D.H.A.S.

The main thrust of the dairy section is involvement and supervision of the D.H.A.S. Program and Dairy Cattle Extension Field Services. It is also involved with breed associations, the Nova Scotia Federation of Agriculture, the Nova Scotia Milk Producers Association, the Canadian Milk Recording Board, Exhibitions, 4-H Clubs, the Holstein Sire Selection Committee and the Nova Scotia Animal Breeders' Cooperative.

VETERINARY

The Veterinary Section has responsibility in the following areas:

- Collaborates extensively with the Food Production and Inspection Branch of Agriculture Canada, in disease control and Canada Domestic Inspection.

- Responsible for the Livestock Health Services Program which operates under the Livestock Health Services Act and is carried out by local Livestock Health Services Boards. This program provides for the delivery of veterinary service to livestock owners.

- Responsible for the Swine Herd Health Program which is available across the province through eight veterinary practices.

- Responsible for the Cattle Herd Health Assistance Policy which is available throughout Nova Scotia through 15 veterinary practices.

- Responsible for the Provincial Meat Inspection Program.

- Operates the Veterinary Pathology Laboratory which processes and reports on specimens from all animal species for producers and veterinarians.

- Works closely—and often collaborates with—other sections of the Livestock Services Branch, other branches of the department, (including the Nova Scotia Agricultural College), and other departments of government.

LIVESTOCK HEALTH SERVICES PROGRAM

This program is carried out under the Livestock Health Services Act in 19 clinics by approximately 42 veterinarians working under 20 Livestock Health Services Boards. The number of veterinarians in large animal practice varied slightly throughout the year and the numbers have gradually increased over the past several years. This program is responsible for the delivery of veterinary service to livestock producers in Nova Scotia. The number of services provided, kilometers (miles) driven and the payments to Livestock Health Services Boards are shown for 1987, 1986, 1985 and 1984:

Year	Number Clinic* Calls	Number of Farm* Calls	(Miles) Driven	Kilometers Driven	Payment** to Boards
1987	1,466	26,565	616,731	992,505	$1,304,000
1986	1,556	27,909	651,354	1,048,028	$1,302,000
1985	1,751	27,633	650,198	1,046,169	$1,190,000
1984	1,860	29,617	670,567	1,078,943	$1,075,700

* Data from monthly statements that are submitted to Boards for payment.

** Payments to veterinary practices are less than funds paid to Boards.

Swine Herd Health Programs

The Swine Herd Health Program was made more comprehensive in 1987. The producer is entitled to one herd health visit per month. The Department of Agriculture and Marketing pays the veterinarian's call fee and one third of his hourly rate. There are approximately 85 herds enrolled in this program.

Veterinary Pathology Laboratory

The number of laboratory submissions has stabilized in recent years. Hematology and chemistry submissions increased dramatically over the previous year.

The bovine chemistry submissions are primarily related to herd profiling and has become an important part of evaluating herd nutritional status.

FUR FARMING

The fur sector continued to make a large contribution to the agricultural community in Nova Scotia. The total pelt crop for 1987 continued to expand but prices received were down from the previous selling season. The prices received for the 1986 mink crop were the highest since 1979. Darks averaged $47 for the 1987 crop, down 22 percent from the previous year.

Fox prices were down considerably from the 1986 crop. Sales were a major disappointment with only a 70 percent clearance of silver pelts and little interest in mutations. The average pelt price was less than $125, down from the $190 average the previous year.

Mink Ranching

Mink ranching continues to be the largest section of fur farming in Nova Scotia. There are presently 163 licensed producers within the province, keeping in excess of 75,000 breeder females. Digby County continues to be the strong-hold of the mink industry, keeping 80 percent of the total females in the province.

The total mink kit production in Nova Scotia is approximately 270,000 which is the second highest total in Canada. Ninety percent of Nova Scotia's mink production is Dark Mink.

The main auctions held in Canada were at Hudson's Bay, Toronto, in January and February, 1988, with some pelts going to the Seattle Fur Exchange.

The overall pelt average at Canada Mink Breeder sponsored sales to date for 1987 production is $42.95. This price is $10 per pelt below 1986.

The farm gross in the 1987–88 pelting season amounted to approximately $11,700,000. There were also breeder sales totalling approximately $2,000,000.

Fox Ranching

Fox pelt production continues to expand in Nova Scotia, now making this province the largest producer of foxes in Canada. The average number of females kept per ranch is 26. The largest keeps in excess of 300 females. Approximately 20,000 pelts were produced, generating approximately $2.4 million dollars in gross farm receipts.

Silver fox continues to be the predominant fox raised in Nova Scotia. The other types raised are Pearl Platinum and Platinum. There are a few ranchers importing breeding stock from outside Canada to try to improve pelt quality.

Since its establishment in 1984, the Nova Scotia Fur Institute has been very active in both research and extension. During 1987, feed trials, behavior studies and artificial insemination research were carried out by staff of the Animal Science Department of the Nova Scotia Agricultural College, in co-operation with the fur section of the Livestock Branch.

Chinchilla Ranching

This sector of the fur industry is a small one with only 16 licensed producers. However, it remains stable with consistent pelt returns.

MARKETING AND ECONOMICS BRANCH

OVERVIEW

The Marketing and Economics Branch provides leadership and assistance to the agricultural industry in the marketing of Nova Scotia agri-food products. Through consultation and liaison with all levels of the marketing system, programming has been developed in the areas of market analysis and research, administration of government policies and regulations, product development and promotion, market development and education and audio-visual services.

MARKETING BOARDS

Eleven commodity marketing boards operate in the province under the general supervision of the Natural Products Marketing Council. They are:

- Nova Scotia Wool Marketing Board, established 1947
- Pork Producers Marketing Board of Nova Scotia, established 1952
- Nova Scotia Chicken Marketing Board, established 1966
- Nova Scotia Egg & Pullet Producers Marketing Board, established 1966
- Nova Scotia Turkey Marketing Board, established 1972
- Nova Scotia Flue-Cured Tobacco Growers Marketing Board, established 1973
- Nova Scotia Processing Pea Marketing Board, established 1980
- Nova Scotia Winter Grain Marketing Board, established 1981
- Nova Scotia Potato Marketing Board, established 1982
- Nova Scotia Evening Primrose Marketing Board, established 1986
- Nova Scotia Processing Bean Marketing Board, established 1986

Members of the Nova Scotia Greenhouse Growers' Association and the Nova Scotia Fruit Growers' Association initiated discussion with

Council regarding the establishment of marketing plans for greenhouse vegetables and apples.

Council met twelve times during the fiscal year. In that time, nine appeals were heard concerning decisions of the Boards. Five involved pricing orders of the Nova Scotia Turkey Marketing Board, one involved quota regulatory decisions of the Nova Scotia Turkey Marketing Board and three involved quota regulatory decisions of the Nova Scotia Chicken Marketing Board.

Council was also involved at the regional and national levels with issues regarding supply management, particularly as they affected chicken, eggs and turkey.

CO-OPERATIVE ASSOCIATIONS

On April 1, 1987, the responsibility for co-operative administration was moved to the Nova Scotia Department of Development.

DIRECT MARKETING

The popularity of community farmers' markets continues to grow. There are now 20 farmers' markets with total sales estimated at $1.1 million annually.

Roadside markets generally showed positive growth in 1987–88 with the more successful markets offering innovative merchandising with good management and choice traffic locations.

BRANCH POLICY PROGRAMS

The Branch administered three major departmental policy programs in the 1987–88 fiscal year.

School Milk Policy

The School Milk Program continues to be well accepted by the schools, general public and milk processors. The subsidy paid by the Nova Scotia Department of Agriculture and Marketing for the 1987–88 school year totalled $1.6 million with 547 registered schools and approximately 171,000 school-aged participants.

Pork Price Stabilization

In 1987–88, approximately 200 pork producers were enrolled in the Pork Price Stabilization Plan, representing 97 percent of the provincial production. Higher prices allowed a portion of the outstanding industry loan to be repaid, estimated at March 31, 1988, to be approximately $4.5 million.

Live Market Hog Transportation Policy

The Live Market Hog Transportation Policy assisted producers in defraying a portion of the transportation costs to market. In 1987–88, 250 pork producers received benefits under the program.

TARIFFS

The Branch continued the administration of the seasonal tariff application and removal on imported fruits and vegetables for the Maritime Tariff Zone. Products affected by tariffs in the 1987–88 season included snap beans, beets, broccoli, cabbage, carrots, cauliflower, sweet corn, cucumbers, onions, shallots, peas, pears, strawberries and tomatoes.

REGULATIONS

As administrator and advisor to the Minister regarding the Nova Scotia Fruit and Vegetable Regulations, the Branch maintained a close working relationship with federal inspectors of Agriculture Canada and Consumer and Corporate Affairs. During 1987–88, 100 detentions were reported.

A two-litre and four-litre open basket of apples were added to the legal retail pack list. A two-kilogram carton for small potatoes was authorized for experimental testing.

ECONOMICS PROGRAM

The Branch provides economic analysis and associated services to the department and industry with respect to policy issues. Agricultural economic developments were maintained.

Areas include the National Agricultural Strategy Review of the Feed Freight Assistance Program, the National Feed Grain Policy, the Canada/U.S. bilateral trade negotiations and subsequent agreement.

Agreement was finally reached in 1987 on the National Tripartite

Stabilization Program for apples. This is the first Tripartite Stabilization Program in Canada to cover production in all provinces. The level of participation in the provincial industry has been very high.

An updated review and analysis of greenhouse vegetable markets and the market impact of the Sprung Greenhouse Complex in St. John's, Newfoundland, was completed. The report, *Greenhouse Vegetable Markets and Production in Atlantic Canada,* is available.

Other economic program highlights include the participation in the Agri-Food Development Agreement and Atlantic Livestock Feed Initiative Evaluation Committees. As well, in-depth analysis of the large Census of Agriculture (1987) database and the management of a study on the impact and economic benefits of agricultural exhibitions was conducted.

MARKET DEVELOPMENT

Livestock

Liaison was maintained with all sectors of the livestock production and marketing chain. Specific market assessments and profiles for the livestock industry were undertaken and included: a provincial trade development constraints study, veal export market validation, cattle volume seasonality, (1982–86), deli meat volume survey and co-operative advertising study (turkey).

A Marketing and Economics Services Long Range System Plan and a Branch Strategy and Policy Paper were developed for the livestock sector.

The Marketing and Economics Branch continued its service of tracking retail meat and poultry advertisements. As well, databases were completed to allow tracking of market information, prices and volumes of hogs, sheep, cattle and eggs in various North American markets.

Crops Marketing

Work with grain, forage, horticultural and maple producers was maintained through regular individual contact and participation on various marketing committees, as well as conferences and seminars continued.

The Branch serves as one of the primary sources of market information, through services such as the *Market Line, Fresh Produce Supply*

Forecast, and the well-received publication *Vegetable Marketing Handbook, 1987.*

An industry tour to the Boston area was organized and the New England Vegetable Growers Convention and Trade Show was visited. Other marketing extension initiatives included work with individual producers/marketers or firms.

Promotion

An emphasis on developing the domestic market resulted in a number of promotion and advertising activities. Consultation and co-operation with 15 major commodity associations and farm organizations also resulted. Financial assistance for marketing and promotion programs given to these groups totalled $107,000.

A program of food photography and graphic work was associated with commodity promotional activities. Advice and assistance was given to many commodity groups in the development of their consumer promotion and marketing activities. In-store promotion campaigns were undertaken by the commodity groups associated with turkey, eggs, pork and apples.

Promotional highlights for the year included the Atlantic Insight Recipe Contest, participation at numerous consumer shows (Food Fair Atlantic, Lifestyles Show, Swing Into Spring), agricultural exhibitions, mall displays, attendance at special conferences, events and seminars. In co-operation with Audio-Visual Services, a multi-image slide-sound presentation entitled *Marketing Innovations—A Nova Scotia Perspective* was produced.

Foodservice

The Marketing and Economics Branch has maintained its role in dispensing foodservice market information to the Nova Scotia agri-food industry. It has also been active in planning and initiating programs and activities aimed at developing and enhancing market opportunities within this sector.

The Foodservice Database and Foodservice Directory were revised in 1987. Two major industry-wide promotions were undertaken—*Meat Me For Lunch* and the *Nova Scotia Strawberry Festival.* Both programs received positive evaluations and increased foodservice market oppor-

tunities for Nova Scotia producers/processors.

Work with commodity groups has continued, with the Branch maintaining responsibility for co-ordinating several foodservice initiatives, notably exhibits at the ApEx trade show and the Nova Scotia Dietetic Association conference, as well as the Maritime Food and Beverage feature entitled *"Taste of Nova Scotia"*.

Liaison and a close working relationship were maintained with all levels of the food marketing chain. With foodservice taking an increasing portion of the consumer's food dollar, it is not surprising that this year the Branch has seen greatly increased interest in this market.

Export

In co-operation with the Department of Industry, Trade and Technology, the Branch became involved in issues pertaining to the Free Trade Agreement with the United States, as well as the multilateral trade negotiations.

In accordance with the National Agricultural Strategy, the Federal/Provincial Market Development Council was given a renewed mandate to co-ordinate and pursue both domestic and export market opportunities for agriculture. A number of studies were undertaken regarding import replacement opportunities, the implementation of a hay certification system and the development of a meat research export institute. Efforts were made to identify and co-ordinate provincial and federal market development activities including joint market research studies, a computerized list of activities and promotional material, joint trade shows and investigative teams. Trade constraints were identified for the perusal of the Federal/Provincial Trade Policy Committee.

The Federal/Provincial Trade Policy Committee had its role enhanced as well. The Committee worked to establish a formal consultation mechanism between the provinces and the United States at the Ministerial level to examine trade issues of mutual concern. The Committee undertook to identify interprovincial trade barriers and to make recommendations to reduce or eliminate them.

Interprovincial and international trade fairs and promotions involving the Branch included: the Canadian Fruit Wholesalers Convention, the Canadian Food and Beverage Show, ApEx, Hostex, the Eastern States Exposition, the Royal Winter Fair, Sea Sell '87 and the Bluenose New

England promotion. Plans were made for a trade mission to the Caribbean to follow-up previous trade and promotion efforts.

MARKET INFORMATION

Aside from servicing individual requests, a variety of general market information services were made available to the Nova Scotia agricultural community.

Market Report—This report, giving local agricultural product prices on a bi-weekly basis, was subscribed to by 1500 individuals in 1987–88.

Market Update—An internal departmental letter gave regular marketing information to staff in other Branches.

Marketing Facts—Produced on an ad hoc basis, its intent is to describe various marketing topics and report on subjects such as marketing surveys.

Fresh Produce Supply Forecast—Fourteen issues were distributed to 175 subscribers (wholesalers, retailers, media and individuals).

The ProNet Market Information Database—Tracked market activity, particularly in the United States.

The Market Line—A telephone-recorder offered daily updated fruit and vegetable market information.

In addition, the study and development of a remote bulletin board service was undertaken. This computer program will make market information available to producers, farm organizations and others.

FOOD MARKETING CHALLENGES '88

A successful three-day conference, sponsored by the Nova Scotia Federation of Agriculture, was held at the Halifax Sheraton on March 6–8, 1988. This Branch, along with Agriculture Canada, assisted with the organization and financial arrangements of the Conference. One hundred forty-two individuals attended from the local and North American agri-food marketing industry. Opportunities to exchange marketing information with one another as well as with 19 featured speakers were available.

AUDIO-VISUAL SERVICES

Audio-Visual Services is a vital part of the Marketing and Economics Branch, serving both the Branch and the Department in its promotional and educational needs.

One major slide show was completed in 1987–88 entitled *Food Marketing Innovations*. The office provided consultation on visual formats, presentations, equipment and audio-visual specifications to department staff, producer groups and committees.

Demand for studio and location photography remains high and several major projects were completed this year including: three posters (apple, blueberry and strawberry) for consumer/foodservice promotions, photogaphy for the new Nova Scotia Department of Agriculture and Marketing booth, the creation of a "photo image" library for the Horticulture and Biology Branch, cover shots for departmental newsletters and releases, stock food and agricultural shots for consumer/foodservice promotion and market development activities.

Graphic work plays a significant role in the preparation of audio-visuals. The greatest demands in 1987–88 were for camera-ready artwork, computer graphics for slides and hand drawings for visual material. Other work included signs and posters, hand lettering, typesetting, logo designs, cover designs, brochure designs, letterhead designs and advertisement designs. Total assignments exceeded 1,050 with approximately 53 percent of the work for Marketing and Economics, 33 percent for other department branches, ten percent for the College and four percent for affiliated associations.

Seven hundred and ninety radio tapes were produced in the year—400 were weekly agricultural tapes, 338 were for the Garden Guide series and 52 were for weekly extension news.

HORTICULTURE AND BIOLOGY BRANCH

OVERVIEW

The Horticulture and Biology Branch, established in 1946, provides leadership and an advisory service to the horticultural industry on complex scientific techniques of commercial food and ornamental crop production.

Horticulture specialists in the Branch are assigned to the following commodity areas: tree fruits, berry crops, vegetables, greenhouse, ornamentals, maple, lowbush blueberries, and home gardens. The Biology Section of the Branch consists of an apiculturist, two Entomologists and a Plant Pathologist.

Specialist services to the horticultural industry include management consultations, the identification of—and control recommendations for—insect and plant diseases. The administration of development incentive policies are also provided by the Horticulture and Biology Branch. Interaction between specialists and their respective provincial commodity associations serves to provide excellent direction for effective horticultural extension programs.

The horticultural industry strengthened and expanded in 1987. The total farm value for horticultural crops in Nova Scotia is in excess of $70 million.

APICULTURE

Honey production was above normal in 1987 with the average yield at 77 pounds per hive. Total honey production was estimated at 253 tons, an increase of 40 percent compared to the 1986 crop.

The dollar value of the 1987 crop is estimated to be over $570,000. If income from hive rentals is included, the total farm gate value is $790,000. This figure does not reflect the true value of the beekeeping industry as it does not include the dollar value of the gain by crops pollinated by honey bees.

Nine hundred and sixty-four packages of bees were brought in from New Zealand in 1987, compared to 476 in 1986. The total number of queens purchased in 1987 was 2,273, similar to previous years. Queens were imported from New Zealand, Australia and Quebec.

Present trends within the industry are to overwinter a larger percentage of bees and rely less on the importation of package bees because of the risk of infestation with *Acarapis woodi*, the honey bee tracheal mite. There is a growing potential for a local queen rearing and nucleus hive production industry. However, Nova Scotia beekeepers still rely heavily on the importation of queen bees from New Zealand.

A total of 1,257 colonies were inspected for brood diseases. This represents a total of 271 apiaries inspected.

APPLE MAGGOT CONTROL

Over the past few years, infestations of apple maggot have levelled off at about 20 percent. According to surveys carried out by the Board, 83 percent of Nova Scotia orchards were free of apple maggot in 1987. The apple maggot survey results for the past seven years are given in the following table:

APPLE MAGGOT SURVEY RESULTS SUMMARY

	1987	1986	1985	1984	1983	1982	1981
Number of Registered Growers	190	190	216	230	236	253	268
Number of Blocks	667	655	695	710	697	755	756
Number of Infested Blocks	115	133	113	124	182	118	124
Percentage of Blocks Infested	17.2	20.3	19.1	17.5	26.1	15.6	16.4
Percentage of Contacts Infested	32.2	27.6	37.6	37.4	45.0	29.2	31.0

As in the past, the Apple Maggot Control Board and the Food Production and Inspection Branch of Agriculture Canada co-operated in carrying out the August and September orchard inspections. A total of 12 inspectors participated in the four-week survey during which time 1,177 inspections were completed (567 of these were commercial orchards).

BERRY CROPS

The 1987 berry crop, excluding lowbush blueberries, grossed Nova Scotia growers $5,873,515. This is an increase of $494,081 over 1986 returns. Lower production occurred in strawberries and highbush blueberries. The most notable price increase occurred in the strawberry

and highbush blueberry market as a result of lower production. The certified strawberry nursery sales continue to expand in the export market.

Strawberries

The 1987 Nova Scotia strawberry industry is valued at $5,042,759, up $710,325 over the 1986 value.

The 1987 strawberry crop equalled the 1986 strawberry crop of 3.5 million quarts. The potential producing strawberry fields are remaining fairly constant at 1,000 acres. Strawberry prices reached an all-time high at an overall average of $1.105 per quart.

Advertising and promotion programs by growers, the Nova Scotia Strawberry Growers' Association, the Nova Scotia Farm Fresh Marketing Association and the provincial and federal Departments of Agriculture were fully developed and utilized during the harvest season.

The Nova Scotia certified strawberry nursery program experienced another record year with sales of 20,263,100 plants valued at $1,175,259. Over 89 percent of these sales were out of province and a large percentage to the United States. Sales were also made to the United Kingdom and Spain.

Highbush Blueberries

The highbush blueberry industry in western Nova Scotia was seriously set back because of the 1986–1987 winter injury to fruit buds and wood. A 1987 production survey indicates an 83 percent crop loss in 1987 as compared to the normal crop year of 1985. The 1987 crop was estimated at 77,062 pints, compared to 430,643 pints in 1985. Some plantings received as much as 98 percent winter injury resulting in removal of wood to the ground level. The strong root system has resulted in vigorous regrowth which will require extensive pruning in 1988. It will be 1989 and 1990 before production returns to a normal level.

Grape

Production in 1987 is estimated at 62 tons, compared to 60 tons in 1986 and 82 tons in 1985. The 1987 crop was down from its potential for several reasons. The cool 1986 fall did not allow some varieties to properly harden for winter. This resulted in some winter injury to the buds

and canes. In some vineyards, the less productive varieties were removed and replanted. Some varieties were overcropped in 1986, resulting in reduced vine vigor in 1987. Some growers in 1987 were changing their trellising system thus reducing the potential yield. Despite the lower tonnage, 1987 can be recorded as a vintage year with ideal weather for grape maturity and quality.

It is estimated that 53 new acres were planted and 18 acres were removed for a total of 190 potential acres.

The fourth commercial grape short course was held in Kentville in March of 1987. Two vineyard tours were held, one in Hants and Kings Counties in August and a fall tour in Pictou and Cumberland Counties in September of 1977.

Blueberries

Nova Scotia's 1987 lowbush blueberry crop totalled 13,525,056 pounds. Average provincial production for the past five years is 16,659,578 pounds. Farm gate value for the 1987 blueberry crop was $8,115,033 based on 60 cents per pound paid to the grower. Total value to the provincial economy would be about $24 million. The lowbush blueberry industry consists of 1,000 growers and an estimated 26,000 acres in production. Of the 1987 blueberry crop, 9.2 million pounds were processed in Nova Scotia, 3.9 million pounds were exported fresh to the United States and other provinces. Fresh sales in Nova Scotia totalled 416,000 pounds.

Trends in the blueberry industry include the introduction of mechanical harvesters and flail mowing is rapidly replacing burning as a pruning method. Levelling and smoothing of blueberry land to facilitate the use of flail mowers and harvesters is a priority for the future of the industry.

The lowbush blueberry market was strong for the 1987 crop. The 1986 inventories of frozen blueberries were low well in advance of the 1987 crop. Low crops in Europe and below average wild production in Maine and Nova Scotia created a continuous strong demand throughout the season.

The Nova Scotia Blueberry Institute is in its sixth year of operation. It acts as a coordinating body for investigative research, provides assistance to the blueberry industry through demonstrations and educational programs and provides field sites for plot research and demonstrations.

A block of land (17 acres), in the Debert Industrial Park has been deeded to the Nova Scotia Department of Agriculture and Marketing for use in research and demonstration projects. The Institute is currently administering an extensive land levelling project.

GREENHOUSE INDUSTRY

There are approximately 43 acres of greenhouses and over 80 commercial greenhouse producers in Nova Scotia. Production is spread throughout most of the province with the largest producers situated in Annapolis, Kings, Hants and Cumberland Counties. Total sales for 1987 were estimated at $16 million.

Ornamental plant production is the largest segment of the industry and includes cut flowers, flowering pot plants, foliage plants, bedding plants and vegetable transplants. Over 33 acres of greenhouse are used for these crops. Sales totalled $14.5 million in 1987.

The greenhouse vegetable industry is approximately 10 acres in size and nearly equally divided between tomato and cucumber production. Marketing takes place between March and October and the 18 producers achieved sales of $1.5 million in 1987. Hydroponic production of lettuce is a new crop for two growers with limited year-round lettuce production.

MAPLE SYRUP

In Nova Scotia in 1987, 63 maple operations made and sold a total of 9,700 gallons of syrup from 193,750 taps. The average operation made 154 gallons from 3,075 taps.

The number of taps in Nova Scotia totalled 193,750 for 1986. Markets have expanded so producers need more syrup. They are getting this syrup by adding more taps. Two or three new operations start up each year; thus, in terms of the number of taps, the maple industry continues to be in an expansion stage.

ORNAMENTALS

The landscape sod and nursery industry was valued at over $16 million in 1987. Over 1,300 people are employed in this industry. The following is a listing of the individual components and the number of establishments in the industry:

Sod Growing
- 20 growers
- 3,029 acres in production
- 4,500,000 square yards harvested
- Value $5,400,000

Landscape Contracting
- 55 establishments

Landscape Maintenance
- 13 establishments

Ornamental Nurseries
- 20 establishments; 150 acres in production

Garden Centres
- 35 establishments

Tree Pruners
- 8 establishments

Miscellaneous Sales Stations
- 54 establishments

The Nova Scotia Department of Agriculture and Marketing also provides home garden extension assistance. In addition to handling 4,243 telephone information requests and 778 written requests, a working relationship was maintained with 36 garden clubs, six horticultural and five specialty societies in the province. These organizations have a total membership of over 1,400 people. The popular Nova Scotia Garden Guide is also produced by the Horticulture and Biology Branch. A total of 130 tapes were distributed to 12 radio stations in the province during the year.

TREE FRUITS

The 1987 growing season for tree fruit production will be remembered for its warm dry weather. Fruit trees overwintered well but a May 27 frost resulted in considerable injury to apple flower buds. Warm and dry weather conditions for much of the growing season reduced fruit size in some orchards. Fruit color was excellent but fruit quality was reduced due to russeting caused by late spring frosts. Apple scab was not a problem as a result of the drier weather and there were no major insect problems.

The overall farm gate value of the 1986 tree fruit crops was estimated at $9,631,000.

Apples

The preliminary estimate placed the 1987 apple crop at 2,900,000 bushels, compared to 1986's crop of 2,400,000 bushels. The larger apple crop in Nova Scotia and North America has resulted in lower prices, compared to 1986 when there was a shortage of apples. The farm gate value of the 1986 apple crop was estimated at $9,000,000 with an average return of $3.57 per bushel.

Marketing and financial returns remain the major concerns for fruit growers. An Apple Tripartite Stabilization Program was introduced in the fall of 1987 for the five apple producing provinces. In Nova Scotia, 184 apple growers enrolled in the program and registered over 94,600,000 pounds of apples for 1987.

Pear and Stone Fruit

The 1987 pear crop was estimated to be 70,000 bushels which would be 10,000 bushels higher than the 1986 crop.

The value of the pear crop was $509,000 with an average return of $8.48 per bushel. The plum crop was estimated at 7,000 bushels, similar to the 1986 crop. Value of the plum crop was $122,000 or $17.43 per bushel. Peach and cherry growers had a poor crop in 1987 as a result of frost and winter injury to the flower buds.

The number of new fruit trees planted in 1987 was 8,154.

VEGETABLES

In the province, 12,175 acres of vegetable crops are grown by 328 vegetable producers generating an estimated $15.5 million at the farm gate (not including greenhouse vegetable crops). An estimated 178,000,000 pounds of marketable vegetable crops are produced annually. Seventy-five percent of the vegetable crop area is in Kings County, 20 percent is in the Counties of Cumberland, Annapolis, Colchester, Cape Breton and Pictou, and 5 percent is in the Counties of Hants, Lunenburg, Halifax, Yarmouth and Digby.

Crop yields in 1987 were slightly above average for both warm and

cool season crops. This was partly due to the extensive use of irrigation during the warm dry growing season. Carrot and cabbage crops produced record total crop volumes for Nova Scotia. Storage crops matured well resulting in good keeping quality. Cauliflower and broccoli crops suffered greatly during August and September reducing the quality and volume of these crops.

Generally, competition from Quebec was high this year which had not been the case in the previous two growing seasons.

BULK BIN POLICY

The Bulk Bin Policy is administered through the Horticulture and Biology Branch. The assistance under the policy was $10 per bin up to a maximum of $2,000. In order to be eligible, growers had to operate a minimum of five acres of tree fruits or vegetables. The bins were inspected and coded according to the codes used under previous policies.

A total of 93 applications were approved—of which 89 claims were processed (64—fruit; 25—vegetable). The total value of this policy was $78,320 ($55,810—fruit growers and $22,510—vegetable growers). There were 7,832 bins built under this policy.

EXTENSION SERVICES BRANCH

OVERVIEW

The role of the Extension Services Branch is to provide agricultural education, information and services to farmers and to the rural community in general. The Branch reaches a large number of people through programs and organizations such as Women's Institutes, 4-H Clubs, Federations of Agriculture, fairs and exhibitions, Soils and Crops Association workshops, short courses and other agricultural awareness activities. Highlights of 1987 were the Farm Management Challenges '87 Conference, the visit of His Royal Highness Prince Edward to the 4-H Program, Food Extravaganza '87, the first Atlantic Exhibition Managers' Workshop and coordination of the Canada/Nova Scotia Atlantic Livestock Feed Development program.

AGRICULTURAL REPRESENTATIVES AND SPECIAL PROJECTS OFFICERS

The primary objective of the Agricultural Representatives and Special Projects Officers is to provide a cooperatively planned extension education program and advisory service to Nova Scotia farmers, farm organizations and others involved in the agricultural industry in Nova Scotia. Agricultural Representatives provide a "first point contact" to rural clientele on matters relating to livestock, crops, soils, farm management, farm loans and rural development.

In 1987, 14 county offices, with a staff complement of 36 people, were maintained to serve rural Nova Scotians.

Through farm and office calls, meetings, short courses and media coverage, staff delivered extension education programs on marketing, production and financial management as required by clientele to improve their economic viability and standard of living.

It is the responsibility of the Agricultural Representatives to communicate and provide up-to-date information on all matters relating to agricultural production and marketing. This involves technical, as well as policy information.

FARM MANAGEMENT

The primary objective of the Farm Management Division is to assist

Nova Scotia farmers, farm leaders, and Nova Scotia Department of Agriculture and Marketing staff in developing their farm business management knowledge and skills. The major emphasis of the Division's program and services is to meet this objective.

Farmer Counselling

Individual farmer contact continues to be a major part of the Farm Management extension program. This contact may be in the form of farm calls by staff or through farmers seeking assistance by calling the offices. During 1987, a total of 859 farm calls and calls to the office by farmers were made. A breakdown of the purpose of these calls is as follows:

Record Systems and Analysis	251
Pre-Loan Counselling	169
Business Agreements & Tax Management	139
Financial Management & Analysis	127
General Farm Management	173

During 1987, staff prepared 188 formal budgets for farmers. These budgets were primarily in the form of cashflow projections.

Clients are often referred to the Division by others in the Department of Agriculture and Marketing as well as by bankers, lawyers and accountants. In 1987, a total of 219 referrals for assistance were received.

Education Programs

One of the key roles of the Farm Management Division is to enhance the business management knowledge and skills of clients. While part of this objective can be met by individual contact, educational programs are another method used by staff. During 1987, staff participated in 113 short courses and workshop sessions throughout Nova Scotia. Attendance at these sessions totalled 2,163 people. Education programs included, for the first time, a series of workshops on the farm application of microcomputers.

Management Information Programs

The need for up-to-date, reliable management information related to costs, returns and production co-efficients has been increasing over the past number of years.

In 1987, a number of farm business summaries, production cost studies and farm management factsheets—relating to the farm business management area—were prepared and distributed.

4-H AND RURAL YOUTH

The National 4-H Theme, "Grow With Us", was used in the Nova Scotia 4-H Program for 1987. This theme was the thought behind all 4-H events throughout the year. This theme was particularly appropriate in 1987 because of the growth in membership.

NOVA SCOTIA 4-H COUNCIL

Volunteer direction is given to the Nova Scotia 4-H Program by the Nova Scotia 4-H Council. Under the leadership of Faye Moore of Conn Mills, Cumberland County, the Council met six times during the year. At the annual meeting in November, the Council dealt with sixty resolutions and recommendations. This group took a very progressive step forward at this meeting in deciding only resolutions dealing with policy and projects will come before the annual meeting. The Council continued its involvement in the Canadian 4-H Council and holds a seat on the Atlantic 4-H Committee.

NOVA SCOTIA 4-H WEEKEND

Over 300 4-H members and leaders stayed at the Nova Scotia Agricultural College for the May 8–10 program. Provincial competitions were held in public speaking, demonstrations, square dancing, host and hostess, woodsman, posters and decals categories during the weekend. The highlight continues to be the 4-H Night held at the Cobequid Educational Centre with over 800 people in attendance. This program introduces the weekend's competition winners as well as the National 4-H Award recipients.

The 1987 4-H Host and Hostess selected were Scott Moore, Cumberland County and Pauline MacIntosh, Antigonish County.

Friends of 4-H Certificates were presented to Mary Magee, Kings County and Jack Redden, Halifax County.

VISIT OF HIS ROYAL HIGHNESS PRINCE EDWARD

The 4-H program was thrilled to be selected to host His Royal Highness

Prince Edward for two hours during his visit on June 27. Three hundred and fifty 4-H leaders and members were present for the event. Sixteen displays and stages featured 4-H members, their work and talents.

NOVA SCOTIA 4-H SHOW

The 10th Anniversary of the Nova Scotia 4-H Show was celebrated at the Hants County Exhibition Grounds on October 2–4. Bev Patterson, Densmore's Mills, Hants County, chaired the volunteer leaders who organized the show. Over 10,000 people attended this showcase of champion 4-H projects and competitors from across the province.

The Nova Scotia 4-H Market Steer and Lamb Show 'N' Sale, held in conjunction with the Nova Scotia 4-H Show, was very successful. Prices paid for steers showed an average increase of 44 cents per pound and lamb prices were up an average of 98 cents per pound. Lambs averaged $2.72 per pound and steers averaged $1.65 per pound.

Other 4-H Programs

Camp Rankin continues to be an important part of the summer 4-H program. Two hundred and fifty 4-H members, 9–15 years of age, attend one of the 5 one-week programs. The camp was once again directed by Jon Davison of Truro, Nova Scotia.

4-H members from across the province are active year round learning skills in public speaking, demonstrations, meeting management, projects and basic life skills. They participate in project meetings, clinics, educational tours, social events and local exhibitions.

4-H Statistics

In 1987, 2,924 4-H members were enrolled in 134 multi-project clubs. This is an increase of 6.3 percent over 1986. The average age of the 1,133 boys and 1,791 girls was 12.3 years. Nine hundred and two volunteer adult leaders manage the local clubs. Three thousand, eight hundred and twenty-six projects were completed for a completion rate of 83.2 percent.

Two new projects were introduced in 1987, the Fox Project and the Marketing Project.

Project Breakdown

Beef Calf	239	Food	305
Dairy Calf	318	Sewing	236
Poultry	91	Crafts	710
Horse	281	Other Homemaking	189
Sheep	79	Woodworking	302
Rabbit	180	Outdoorsman	167
Other Livestock	203	Photography	128
Horticulture	182	Others	216

HOME ECONOMICS

The Home Economics Division is actively involved in the development and implementation of programs that promote the consumption of Nova Scotia food products.

The Division also plays an important role in leadership and personal development initiatives through organizations such as 4-H, Women's Institutes and various farm and commodity groups.

Food Education and Promotion

Food education has continued to be one of the key objectives of the Home Economics Division's programming in 1987. It is an ongoing challenge to try to teach people the importance of buying Nova Scotia products and, at the same time, demonstrate the value they are getting for their food dollars.

The demand for microwave education continues. With the assistance of the Home Economics Division, there are now approximately 60 trained instructors in microwaving Nova Scotia foods. These resource people co-ordinate courses all over the province using training manuals developed by the Division.

During Meat/Nutrition Month, many radio stations picked up on the Agricultural Trivia game that was developed. "Families Feeding Families" was a co-operative Food Awareness program, in co-operation with Women's Institutes. The use of the media continues to be an important educational avenue.

Women's Institutes of Nova Scotia

The Women's Institutes' membership stayed relatively stable in 1987. Special efforts such as participation in promotional exhibits, W.I. Week and the special anniversary celebrations will allow the organization to grow.

The Women's Institutes are a very valuable community contact for the department and often assist with getting programs launched.

A number of co-operative programs—Families Feeding Families, Putting on the Glitz, Fall Seminar, Farm Women's Conferences and Farm Women's Days are examples.

The 75th Anniversary of the Women's Institutes of Nova Scotia will be marked in 1988. A number of special programs are being planned to commemorate this anniversary.

4-H Homemaking

The 4-H Program continues to be a high-energy, labor-intensive program. The Regional Home Economist acts as an advisor to the 4-H Program. This includes the development of manuals and special leader training sessions to implement the manuals. The projects that are included under the homemaking heading are: crafts, foods, sewing, heritage and cake decorating. Each year, the manuals are evaluated, updated and changes brought before Council for implementation.

Two manuals are currently in the research and draft stages—an advanced foods manual and one on life skills.

Through the Canadian 4-H Council, under the direction of the Nova Scotia Leaders' Council, Nova Scotia has been successful in obtaining monies from Imperial Oil for a Sewing Leaders' workshop. Initial planning has taken place and the conference will be held in November, 1988.

Farm Women's Conference

In November, the eighth Farm Women's Conference was held at Keddy's in Truro. The plans for this conference are implemented through a committee made up of Women's Institutes, farm women, a Nova Scotia Federation of Agriculture representative, and the Home Economics Division.

Approximately 90 delegates registered for the conference. This year's theme was "Women as Managers". Four farm women panelists shared their philosophies and farm situations to tell the delegates about the important elements of women as managers.

Conference evaluations indicate that these conferences serve a very valuable purpose and should be continued.

In 1988, a special effort will be made to plan specific activities where the Marketing and Home Economics Divisions can co-operate on joint initiatives. There will be a steamlining of other programs to make more effective use of time for both the staff and the program.

EXTENSION AGRICULTURAL ENGINEERING

The work of the Extension Agricultural Engineering Division involves the provision of technical support services to assist farmers and the agricultural industry in the construction of capital works. These works include all types of farm structures for livestock housing; crop storage and handling; and land development and protection works. The Division is also involved with providing consultation and technical service related to farm mechanization, crop processing and storage and energy conservation and utilization.

The work of the Division is reported under five program areas: Land Development, Farm Mechanization, Crop Processing, Land Protection and Farm Buildings.

Land Development

This program covers the provision of technical and design services with respect to drainage, land clearing, land forming, farm pond construction, dykeland roads and all forms of irrigation.

Much of the effort of the Division is directed toward administrative input and support for activities under the Land Improvement Policy.

A statistical summary of the Land Improvement Program is as follows:

Number of applications approved	866
Number of applications rejected	26
Total value of applications approved	$7,321,764
Grant value of applications approved	$5,491,323
Total value of claims processed	$5,315,213
Grant value of claims processed	$4,275,612

Land Improvement statistics are as follows:

Category	Units of Work Completed
Land Clearing	2,609 acres
Windrow Removal	80,477 feet
Apple Tree Removal	2,245 trees
Underdrainage	3,984,729 feet
Surface Ditching	610,504 feet
Ditch Spoil Levelling	381,370 feet
Land Forming	883 acres
Roads on Dykelands	14,080 feet
Land Levelling	750 acres
Land Ripping	9 acres
Firebreak Construction	27,843 feet

A drainage study plot was installed in the Cumberland County area to conduct intensive drainage spacing studies on a Queens clay soil. Installation of monitoring equipment and initial data collection will begin in 1988.

Land Protection

This area includes programs related to the operation and maintenance of 150 miles of dykeland and 278 aboiteau structures. Also included are flood control structures for the Musquodoboit River and Brierly Brook. The work under the main outlet drainage policy is also the responsibility of the land protection staff.

The statistical summary is as follows:

New aboiteaux constructed	5
Main Outlet Drainage ditches excavated	111,915 feet
Land Forming surveys	883 acres
Ditching surveys	267,520 feet
Rock Protection dykes	48,682 tons

The majority of aboiteaux were constructed during the 1950's and they were constructed of wooden timbers. These sluices are starting to show their wear and deterioration. An ongoing program of repair and replacement is being carried out.

Crop Processing and Energy

This phase of the work involved engineering input into several areas of agriculture. The main categories were:

- Provincial Grain Centres
- On-Farm Grain-Feed Facilities
- Fruit & Vegetable Storage and Handling
- Energy Management and Conservation

Engineering counsel, advice and service was provided to the Provincial Grain Commission for expansion projects at the grain centres as follows:

Location	Project	Price
Middleton	Add 17,000 bu. dry storage and bucket elevator	$101,448.
Bayhead	Replace bucket elevator	$ 38,455.
Steam Mill	Add dry storage and bucket elevator	Plans provided only. No construction undertaken

Preliminary plans were provided for facilities in Amherst and Cape Breton.

Engineering counsel, plans and information were also provided to 41 producers for refrigerated fruit and vegetable storages. Most of this work involves rapid pre-cooling and sizing of refrigeration equipment.

The Canadian made "Ice Bank" cooling system, installed one year ago on a project basis, is now in operation. The system has performed satisfactorily as designed and now provides an alternative to the British system. The Canadian equipment is now available locally through a firm in Dartmouth.

In the area of energy management and utilization, 31 requests were dealt with regarding energy concerns. The most common request is with regard to electric power consumption. The increased use of demand meters has heightened the awareness of power usage. Requests for information were made on alternative methods such as solar collectors, heat pumps, heat exchangers, and alternative fuels.

Farm Structures

A very important segment of the Extension engineering work is the provision of engineering counsel and technical planning and assistance for farm structures. Farm structures include livestock buildings, crop storages, manure storages, machinery buildings and other miscellaneous structures.

A number of trends are developing in livestock and poultry housing. The poultry meat industry is expanding which has resulted in expansions to broiler, roaster and turkey production facilities. Multi-age brooding is a continuing trend.

There is also considerable interest in upgrading pesticide storage facilities. Standards for storages are presently being developed.

A summary of the structure engineering work is as follows:

New Plan Sets Prepared	111
Number of Plan Sets Distributed	2189
Number of Plan Sheets Distributed	5580
Number of Farm Structure Calls	456

Custom plan sets prepared by staff engineers are as follows:

	Number	Percentage
Beef	17	15.3
Dairy	19	17.1
Swine	11	9.9
Fruit & Vegetable	8	7.2
Grain, Forage	7	6.3
Special Structures	15	13.5
Building Engineering	6	5.4
Manure Storage	4	3.6
Poultry	10	9.0
Miscellaneous	14	12.6

Farm Power and Machinery

The area of farm mechanization continues to be the segment of the industry experiencing very rapid change.

Machinery evaluation and demonstrations have proved to be an excellent method of keeping the agricultural industry informed of new developments. Some of the evaluations and demonstrations included:

- strawberry plant digger
- design of high dump forage wagon
- hay compactor
- baby carrot harvester modification
- equipment development of utilization of fish product for fertilization
- silo additives
- mechanization of strawberry harvester
- blueberry burner project
- round bale plastic rope system
- forage harvesting system evaluation
- safety of front end loaders (fertilizer bags)
- mower conditioner evaluation
- vegetable harvester (white endive)
- straw spreader evaluation

Along with evaluation and demonstration programs, a number of short courses and field days were set up in co-operation with various departments.

- New development in Vegetable Equipment (Vegetable Producer Annual Meeting)
- Sprayer Equipment (Pesticide Application Short Course)
- Forage Equipment Use (Cumberland County)
- Plow Adjustment Demonstration (Six Sites)

Atlantic Farm Machinery Institute

The Institute has been in place since March of 1985 and has been developing and receiving proposals for mechanization research and development projects.

The Institute has undertaken a number of machinery testing and evaluation projects during the past year including: disc mower evaluation, straw spreader, blueberry grading and packaging equipment, blueberry field burner evaluation and cabbage handling equipment. Proposals have been developed for several other projects and are awaiting approval by various funding agencies. The Institute has one full-time Agricultural Engineer on staff and is working with the Nova Scotia Research Foundation to develop a machinery lab. The total value of projects undertaken for the past year is $83,000.

SOILS AND CROPS BRANCH

OVERVIEW

The Soils and Crops Branch is responsible for the following areas:

- Crop extension activities for all cereal and forage crops grown in Nova Scotia which are utilized either as human or animal feeds. Tobacco, which is grown entirely as a cash crop, is also the responsibility of the Soils and Crops Branch;

- Weed expertise for all crops and the administration of the Weed Control Act;

- Soils expertise, including soil survey, to serve all branches of the Department of Agriculture and Marketing and other Departments of Government, such as the Departments of Health, Forestry and Environment;

- Establishing a co-ordinated criteria for land use planning as affected by Agriculture and other Departments of Government, such as Development, Transportation, Municipal Affairs, Lands and Forests and Tourism;

- Provincial Laboratory Services maintained at Truro serves all professional staff of the Department of Agriculture and Marketing, all farmers, market gardeners, greenhouse operators and homeowners in soil, water, plant foliar and livestock feed sample analysis to determine the nutrient content. Soil physical analysis is also available;

- The Soils and Crops Branch is responsible for the administration of a Pesticide Residue Analysis Service located at the Kentville Agricultural Centre. This laboratory is cost-shared with the other three Atlantic Provinces.

THE 1987 SEASON

What will be remembered most about 1987 was the lack of rainfall throughout the growing season, particularly May, July and August. September, however, did produce a significant amount of precipitation along with slightly above normal temperatures.

The monthly averages and departures from the 30 year normals for

temperature and precipitation are represented for nine stations in Nova Scotia.

Weather Information for 1987

AVERAGE TEMPERATURES (°C) AND TOTAL PRECIPITATION (mm)
IN NOVA SCOTIA DURING 1987

	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG	SEP.	OCT.	NOV.	DEC.
Mean Temp.	-6.1	-7.1	-2.0	6.0	9.8	14.5	18.5	17.1	14.1	9.0	2.3	-2.7
Prec.	132	48	80	91	71	98	39	44	164	144	139	130

AVERAGE TEMPERATURES (°C) AND TOTAL PRECIPITATION (mm)
DEPARTURES FROM NORMAL DURING 1987

	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
Temp.	-7.4	-10.5	-4.3	- 21.8	- 7.0	-0.5	- 5.4	-3.7	- 5.4	- 11.9	- 5.2	-2.3
Prec.	- 7	-480	-248	- 4	-165	- 179	-401	-510	- 713	- 283	- 94	-90

CROPS

Forage

The prolonged dry spell during July and August greatly reduced the regrowth of most forage. The regrowth of shallow rooted species such as timothy, ryegrass and bluegrass were affected the most. Deeper rooted species such as bromegrass, red clover and alfalfa did produce a second cut but was considerably less than hoped for. The lack of second cut forage did not leave the province short of forage due to an above average yield for first cut and a long productive fall.

First cut, especially if cut after June 15, was well above average in yield. Many farmers reported a yield increase of 30–40 percent above normal. The weather at harvest was good helping to insure a high quality feed going into storage. The provincial laboratory reported that most forage samples analyzed were higher in quality relative to other years.

Due to the dry weather, pasture conditions were poor in 1987. In some localities, farmers were forced to supplement pasture with winter feed. Warm temperatures and ample precipitation during September allowed pastures and hay fields to recover well. Farmers with haylage systems in need of more forage had good opportunities to harvest a third crop. The extended growing season brought on by the warm fall weather helped to relieve a potentially tight situation.

Cash Crop Hay

With total forage yields being down by as much as 25 percent—due to

the prolonged dry spell—there was little hay available for offshore trading in 1987. Hay sold by Nova Scotia producers to the offshore market is almost entirely excess production. With most offshore sales returning approximately $65/ tonne ($59/ ton), most farmers see little value in producing cash crop hay.

There are strong markets for high quality horse hay. These markets return a good dollar to the primary producer. In order for Nova Scotia farmers to access these markets, they must prove they can ensure a consistent supply of the quality and type of hay demanded. This will require a large number of producers growing a product to meet the specific demands of this specialized market.

Corn

In general, the spring of 1987 was well suited to the seeding of annual crops. Although most areas had large amounts of snow, it melted rapidly and the soils dried relatively quickly allowing for early spring tillage. The vast majority of the corn was planted by the second week of May.

During the early growth in May and June, the crop in most areas developed rather slowly, even though daytime temperatures were near normal. This was due to the cold nights during this period.

Most of the corn on the heavier soil types in the central region of the province developed well throughout the growing season. Any corn that was on sandy, well-drained soil, especially in the Annapolis Valley, was showing signs of water stress by mid-July. By the first week in August, some of these fields were showing drought symptoms and the yield was reduced substantially. Also, it was noted that fields with poor weed control exhibited drought symptoms, even on the heavier soils, because of the weed's ability to effectively compete for moisture.

The first killing frost occurred on September 28 in Truro and on October 14 in Kentville. By September 25, silage harvest was in full swing in the Annapolis Valley and by October 2 in the Truro area.

Yields of corn silage on the heavier soils were average to above average depending on the water stress situation. Certain areas of the province received rain at critical times and achieved good yields but areas nearby may have been completely bypassed. The same is true for corn grown for High Moisture Ear Corn (HMEC). Some of the corn that was originally destined HMEC was cut for silage. Very little corn was

harvested for dried grain corn due to low world prices, the high costs of drying and the tight forage situation of 1987.

Maturity was adequate in most situations, although some HMEC was a bit wet. The moisture content was lower than the last two years and there was increased interest in growing corn for HMEC. There was a fair bit of activity in the exchange of HMEC in 1987. Some cash crop farmers in the Annapolis Valley are quite keen to produce a high quality High Moisture Cob Meal for sale to dairy farmers throughout the province.

Statistics Canada reported grain corn hectarage of just over 1200 ha (3000 ac) of grain corn and 2100 ha (5198 ac) of silage corn in the province. Three crop insurance claims for drought-stressed crops were made.

Cereal

Fall seeded cereals came through the winter in excellent condition. Early season cool conditions gave good crop growth as well as low disease pressure. Winter cereals had completed grain filling prior to the extended period of dry conditions that occurred in July and August. Dry August conditions resulted in an efficient harvest of above average yield and quality of winter wheat.

Due to dry spring soil conditions, spring grains were seeded very early. It was estimated that by May 22, 75–80 percent of the spring grains had been seeded. Early seeded crops avoided the mid summer dry conditions and produced good yields of excellent quality grain. Late seeded or long season grain crops planted on light soils experienced significant yield reductions due to dry soil conditions. Early seeded crops were harvested under excellent conditions. However, crops harvested after September 10 experienced extended wet conditions which increased drying costs and reduced grain quality.

Nova Scotia Winter Grain Marketing Board

The 1987–1988 crop year has been the most active ever for the Nova Scotia Winter Grain Marketing Board.

Milling wheat production increased dramatically in 1987. The Board is the sole marketing agent for Maritime-produced milling wheat and conducts marketing and producer payments for farmers in Prince Ed-

ward Island, New Brunswick and Nova Scotia.

Dover Mills continues to be very supportive of the Eastern milling wheat industry and is working diligently to blend local wheat in its grists to best advantage. The volume of feed grains handled through the pool was down in 1987.

To date, $1.93 million has been paid to producers in federal advance, provincial advance and interim payments on the 1987 crop. Four of the smaller pools were closed on April 1, 1988, with total final payments of $160,000.

The number of producers participating in the various pools in 1987 was 191, up from 135 in 1986–1987. Total pool volume was 14,981 tonnes (16,509 tons), up 53 percent from the 1986–1987 level of 9,760 tonnes (10,755 tons).

The Board works closely with the Soils and Crops Branch of the Nova Scotia Department of Agriculture and Marketing regarding production and marketing concerns. A weekly radio broadcast is provided by the Board in the Valley area during the growing season to assist producers in their crop management. A crop advisory service, administered by the Board, is available with the assistance of Atlantic Livestock Feed Initiative funding.

Soybeans

For the third year in a row, soybean yields were below normal. All six growers insured by crop insurance made claims in 1987. Average yields were 720 kg/ha (650 lb./acre). Since soybeans are seeded late in the spring, they are vulnerable to drought conditions. The beans were very short in 1987 and, therefore, many of the large pods were even closer to the ground than normal. This resulted in harvest losses if the field was not perfectly level or the combine was not equipped with a flexible cutterbar.

Although poor yields were reported in many areas of the province, other growers reported yields in the range of 2. to 2.3 t/ha (0.9 to 1 t/acre) on some of the heavier soils where good weed control was obtained. Significant yield reductions occurred on fields where complete weed control was not obtained since the soybean plant is very uncompetitive for moisture compared to well-adapted weed species.

Statistics Canada reported soybean hectarage in 1986 as 306 ha (756 acres) and, although no figures were available for 1987, hectarage was reduced.

Soybeans remain an essential crop to many farmers in Nova Scotia as an "on-farm" protein source, as well as a benefit in the crop rotation, due to their ability to contribute nitrogen to the soil for the succeeding crop.

Canola

Spring Canola has been grown on a commercial scale in Nova Scotia since 1982. It is well adapted to the cool, moist growing season and tolerant of the varied soils of the province. Canola has some potential to be an important cash rotation crop for cereal farmers. Its use in cereal rotations breaks disease cycles and results in improved grain yields.

The canola crop in 1987 was the best ever. The average yield on 82 ha (202 acres) was 1.74 t/ha (0.78 t/acre).

The higher yields in 1987 can most likely be attributed to improved seeding practices, high Nitrogen fertility used by some producers and ample heat units. Yields, however, were decreased on some fields due to soil moisture shortages from mid-June to September and the substantial yield loss attributed to Reglone coupled with inclement weather or strong winds during the dessication—harvest period.

The 1987 canola crop was sold to Papillon Ingredients Canada Ltd., Mississauga, on January 12, 1988, at a price of $230.70 per cleaned tonne ($209.35/ton), F.O.B. truck at Canning and Bayhead, Nova Scotia.

Crop quality was good. All of the canola graded No. 2 Canada and the dockage was low, ranging from 0.2 percent to 3.06 percent.

The present profit situation for the Nova Scotia crop is not good because of relatively low, world canola oil prices and high freight costs incurred in shipping it to Hamilton, Ontario for processing. The long-term future of canola in this province will be dependent on the feasibility of establishing a local processing facility and livestock feed industry market.

Tobacco

In 1987, Nova Scotia growers received a seven percent cutback in the amount of hectares they were allowed to grow.

June proved to be a very wet month. This accounted for a lot of Black Root Rot on the heavier soils. The wet weather broke in July with July and August being two very dry months. A shallow root system developed on the tobacco plant because of the wet weather in June. As a result, when the dry weather occurred in July, the plants were stressed and it was difficult to keep up to the plant's requirements for water with irrigation.

In spite of the difficulties that occurred, growers were able to produce an average of 2,655 kg/ha (2,370 lb./ac) on 237 ha (586 ac) for a total of 628,217 kg (1,552,303 lb.). Total crop value was $2,532,869.48. There was an overproduction of 45,000 kg (99,000 lb.). Therefore, growers are expecting a 50 ha (123 ac) cutback in 1988. The wet weather caused the greatest amount of damage to those growers producing tobacco on the heavier soils.

WEED SCIENCE SERVICES

In 1987, the Weed Control Section of the Soils and Crops Branch was renamed Weed Science Services. The name Weed Science Services reflects the existence of a scientific discipline behind the technology of weed control as well as the research and advisory service mandate of the personnel.

WEED CONTROL IN 1987

Weed control in 1987 was variable. The season was characterized by a slightly cool spring, a hot, extremely dry summer and a near normal fall. Spring planting and herbicide applications were orderly and well scheduled. In many instances, however, chemical weed control was adversely affected by cool weather in the spring or the extremely dry conditions of July and August.

WEED CONTROL ACT

Nova Scotia farmers have benefited substantially by the provisions of the Weed Control Act. The Act encourages the control of most noxious weeds. It has also prevented the spread from farm to farm of established noxious weeds such as milkweed, yellow nutsedge and tansy ragwort.

Control programs on weeds such as hoary alyssum and milkweed have reduced these weeds to the point that eradication may be a future reality.

A total of $145,256 was spent in 1987 in support of weed control activities under the Act.

SOIL AND CROP IMPROVEMENT ASSOCIATIONS

The 12 Soil and Crop Improvement Associations (S.C.I.A.) in the province were very active in 1987. County Association Directors, representing approximately 650 members, work closely with Soil and Crop Specialists and Agricultural Representatives to encourage the improvement of yields and quality in all field crops.

PEDIGREED SEED GRAIN PRODUCTION POLICY

The Nova Scotia Pedigreed Seed Production Policy was continued in 1987. The purpose of this policy is to provide financial assistance to encourage sufficient production of recommended varieties of Pedigreed seed grains in Nova Scotia to supply provincial requirements.

A total of $10,000 was paid out in assistance to nine growers (maximum $2,000 per grower).

FERTILIZER ASSISTANCE POLICY

The Fertilizer Assistance Policy was continued in 1987. A total of 2,079 applications were processed and $1,507,681.94 in assistance was paid out. In 1987, farmers of the province invested over $6.03M in fertilizer to improve their soil and grow better crops.

Fertilizer Assistance Policy—1987

County	No. of Applications	Average Application	Total Expenditure
Annapolis	132	$558.11	$ 73,669.86
Antigonish	139	895.61	124,489.92
Cape Breton	58	715.74	41,512.98
Colchester	243	811.08	197,092.54
Cumberland	186	715.42	133,068.88
Digby	16	251.74	4,027.88
Guysborough	28	292.17	8,180.64
Halifax	59	812.03	47,909.97
Hants	160	674.37	107,898.69
Hants East	112	978.90	109,636.59
Inverness	98	676.38	66,285.69
Kings	428	911.55	390,143.01
Lunenburg	137	377.84	51,764.65
Pictou	199	582.74	115,964.79
Queens	14	201.68	2,823.47
Richmond	7	184.95	1,294.64
Shelburne	3	212.87	638.61
Victoria	15	597.40	8,961.07
Yarmouth	45	495.96	22,318.06
PROVINCE	2079	$725.20	$1,507,681.94

Year	No. of Applications	Average Application	Total Expenditure
1986–1987	2,075	$698.15	$1,448,659.61
1985–1986	2,251	$695.09	$1,564,666.79
1984–1985	2,387	$660.83	$1,575,398.26
1983–1984	2,430	$655.17	$1,592,070.65
1982–1983	2,481	$638.30	$1,583,628.30
1981–1982	2,471	$603.69	$1,499,952.27

PROVINCIAL LABORATORY SERVICES

Total sample receipts in the Chemistry Lab were up a very significant 15.4 percent (4,625 samples). This was mainly due to a 24 percent increase in feed receipts and a 39 percent increase in water samples.

The 24 percent increase in feeds, following a 13 percent increase in 1986, was due, in part, to a project by Scotsburn Co-op which generated 663 farm forage samples along with participation in a Canada-Prince

Edward Island Agri-Food Development Agreement project.

The 39 percent increase in water samples follows a 67 percent increase in 1986. This was due primarily to the continually increased use of the service by the Nova Scotia Department of Transportation. Sample numbers from this source increased by over 500 percent in the past two years.

5-Year Sample Summary

Material	1987	1986	1985	1984	1983	% Change
Soils						
Field	13,096	12,331	13,090	13,785	12,997	
Greenhouse	2,938	2,734	2,415	2,413	2,399	
	16,034	15,065	15,505	16,198	15,396	+ 6.4
Feed						
Forage	5,968	4,386	3,840	2,844	2,650	
Cereal	1,596	1,085	715	1,282	926	
Milled Feed	1,881	2,047	1,961	2,054	1,436	
Other	1,039	925	933	1,355	1,274	
	10,484	8,443	7,449	7,535	6,286	+24.2
Tissue						
Commercial	2,850	2,343	2,130	1,641	1,242	
Research	1,045	1,614	1,110	456	866	
	3,895	3,957	3,240	2,097	2,108	
Water	3,199	2,298	1,372	1,228	1,117	+39.2
Misc.	951	175	193	163	168	
TOTAL	34,563	29,938	27,759	27,221	25,075	+15.4

LAND EVALUATION AND PLANNING SERVICE

The survey phase on the Land Evaluation and Planning Service (LEAPS) was operated in 1987. Out of 30 applicants interviewed, 23 signed up for the program. A total of 11 farms, covering approximately 1,400 ha (3,459 acres) in eight Counties, were surveyed in 1987.

1987 marked the third year for Phase 1 of the LEAPS program and the first year of Phase 2. Phase 2 is the interpretive stage of the program where detailed recommendations are prepared to guide land improvement, soil management and crop production strategies for individual farms.

LAND USE PLANNING

Soils and Crops Branch personnel were very active in the area of land use planning and soil survey in 1987. An extensive committee structure exists to oversee these issues and the Branch function is to represent the Nova Scotia Department of Agriculture and Marketing on these bodies. Tasks included reviewing draft reports such as the "Agricultural Land Management Objectives" for submission to Policy Board and reviewing a draft "Agricultural Land Use Policy Statement". Other areas of activity included various mapping groups looking at standardizing land information management systems.

In order to accommodate the growing demand for this service, computerization of both phase one and two was initiated during the year.